

What is claimed is:

1. An apparatus suitable for use in converting a wheeled vehicle to a tracked vehicle, the apparatus comprising:
 - a first hub assembly configured and arranged to be fastened to a first axle of a vehicle whose wheel has been removed;
 - a second hub assembly configured and arranged to be fastened to a second axle of a vehicle whose wheel has been removed;
 - a support frame;
 - a first attachment member configured and arranged to operatively connect the first hub assembly to the support frame; and,
 - a second attachment member configured and arranged to operatively connect the second hub assembly to the support frame;wherein two wheels on one side of a wheeled vehicle may be removed and replaced by the apparatus.
- 2 The apparatus of claim 1, wherein the first hub assembly further comprises a track receiving surface.
3. The apparatus of claim 2, further comprising a track configured to encircle the first and second hub assemblies and to contact the track receiving surface of the first hub assembly for rolling engagement therewith.
4. The apparatus of claim 1, wherein each of the first and second hub assemblies comprises a rotational axis, and wherein the distance between the rotational axes of the first and second hub assemblies may be adjusted relative to the support frame to accommodate vehicles having different wheelbase lengths.

5. The apparatus of claim 1, wherein at least one of the first or second hub assemblies may be adjustably positioned along the length of the support frame, and wherein the range of adjustment of the said first or second hub assembly and the support frame, taken from a predetermined point on the support frame, is from 0.0 cm to about 20.0 cm (0.0 to about 8.0 inches).

6. The apparatus of claim 1, wherein each of the first and second hub assemblies comprises a rotational axis, and wherein at least one of the first or second hub assemblies is configured and arranged to automatically compensate for vehicles whose wheel axes are misaligned.

7. The apparatus of claim 1, wherein each of the first and second hub assemblies comprises a rotational axis, and wherein at least one of the first or second hub assemblies is configured and arranged to automatically compensate for vehicle axles having irregular rotational movement such as runout or wobble.

8. The apparatus of claim 1, wherein at least one of the first or second hub assemblies is movably attached to the support frame and rotatable about a generally vertical axis with respect thereto, whereby the apparatus is able to accommodate vehicles whose wheel axes are misaligned, or which have irregular rotational movement such as runout or wobble.

9. The apparatus of claim 2, wherein the track receiving surface of the first hub assembly comprises at least one radially extending projection configured to drivingly engage a track.

10. The apparatus of claim 1, wherein the first hub assembly comprises an adaptor disc and a sprocket attachable thereto.

11. The apparatus of claim 10, wherein the sprocket has an attachment surface and a track receiving surface that define planes, which are offset with respect to each other.

12. The apparatus of claim 3, further comprising a suspension system for reducing the magnitude of jolts transmitted to the vehicle when the vehicle travels over an uneven surface.

13. The apparatus of claim 12, wherein the suspension system comprises a resilient member positioned substantially between one of the first or second attachment members and the support frame.

14. The apparatus of claim 12, wherein one of the first or second attachment members comprises an articulating connection, and wherein the resilient member of the suspension system is configured to resist movement of the articulating connection as it moves in response to the vehicle when the vehicle travels over an uneven surface.

15. The apparatus of claim 14, wherein the articulating connection comprises:

a first arm having opposing ends with one end pivotally connected to the support frame;

a second arm having opposing ends with one end connected to the second hub assembly;

with the opposing ends of the first and second arms operatively connected to each other for angular movement therebetween;

wherein the resilient member resists the angular movement between the first and second arms.

16. The apparatus of claim 1, wherein the support frame comprises a plurality of elongated sections with the elongated sections adjustably connectable to each other so that the distance between the first and second hub assemblies connected thereto may be adjusted to accommodate vehicles having different wheelbase lengths.

17. The apparatus of claim 16, wherein the distance between which the first and second hub assemblies may be adjusted is in the range of about 70.0 cm to 150.0 cm (about 30 to 60 inches).

18. A track assembly constructed and arranged for mounting on two wheel flanges on one side of a wheeled vehicle, the track assembly comprising:

- a first hub assembly attachable to a first wheel flange of the vehicle;
- a second hub assembly attachable to a second wheel flange of the vehicle;
- a support frame operatively connected to the first and second hub assemblies, with the first and second hub assemblies rotatable with respect to the support frame; and,

- an endless track configured to encircle the first and second hub assemblies, with the endless track engaged by at least one of the first or second hub assemblies.

19. The track assembly of claim 18, further comprising first and second rollers each having a rotational axis, with the first and second rollers operatively connected to the support frame in a spaced apart relation, with the first and second rollers configured and

arranged to ride upon an inner surface of the endless track as the endless track moves relative to the support frame, and with the first and second rollers defining the ground contacting extent of the endless track.

20. The track assembly of claim 19, wherein the distance between the rotational axes of the first and second rollers is greater than the distance between the rotational axes of the first and second wheel flanges of the vehicle.

21. The track assembly of claim 18, wherein the support frame comprises an elongated section having a predetermined length, and wherein one of the first or second hub assemblies is movably adjustable along the length of the elongated section.

22. The track assembly of claim 18, wherein the support frame comprises an elongated section having a predetermined width, and wherein at least one of the first or second hub assemblies is movably adjustable along the width of the elongated section.

23. The track assembly of claim 18, further comprising a first attachment member configured and arranged to movably connect the first hub assembly to the support frame, whereby the track assembly is able to accommodate for runout and/or misalignment of the first hub assembly.

24. The track assembly of claim 23, wherein the first attachment member comprises a resilient member, and wherein the resilient member is positioned between the first hub assembly and the first attachment member.

25. The track assembly of claim 24, wherein the resilient member is a sleeve.

26. The track assembly of claim 25, wherein the sleeve comprises elastomeric material.

27. The track assembly of claim 23, further comprising a second attachment member configured and arranged to movably connect the second hub assembly to the support frame, whereby the track assembly is able to accommodate for runout and/or misalignment of the second hub assembly.

28. The track assembly of claim 27, wherein the second attachment member comprises a resilient member, and wherein the resilient member positioned between the second hub assembly and the second attachment member.

29. The track assembly of claim 28, wherein the resilient member is a sleeve.

30. The track assembly of claim 29, wherein the sleeve comprises elastomeric material.

31. The track assembly of claim 18, further comprising a tensioning member, with the tensioning member operatively connected to the support frame and configured to engage the endless track so that the endless track is spaced from one of the first or second hub assemblies in a non-contacting relation.

32. The track assembly of claim 31, wherein the tensioning member comprises first and second ends, wherein one of the ends is pivotally connected to the support frame and the other end is adjustable relative thereto.

33. The track assembly of claim 32, wherein the tensioning member comprises at least one upper idler roller for engaging the endless track.

34. The track assembly of claim 31, wherein the tensioning member comprises a pair of spaced apart, generally u-shaped arms with the u-shaped arms configured and arranged to support at least one upper idler roller.

35. In combination with a vehicle having two wheel attachment flanges on one side thereof, a track assembly comprising:

- a first hub assembly attached to a first wheel flange of the vehicle;
- a second hub assembly attached to a second wheel flange of the vehicle;
- a support frame operatively supporting to the first and second hub assemblies, with the first and second hub assemblies rotatable with respect to the support frame; and,
- an endless track encircling the first and second hub assemblies, with the endless track engaged at least one of the first or second hub assemblies.

36. A method of converting a wheeled vehicle to a tracked vehicle, the method comprising the steps of:

- a. removing a first wheel from a first wheel flange on one side of a vehicle;
- b. removing a second wheel from a second wheel flange on said side of a vehicle; and,
- c. attaching a first track assembly to said first and second wheel flanges of the vehicle, the first track assembly comprising:
 - a first hub assembly attachable to a first wheel flange of the vehicle;

a second hub assembly attachable to a second wheel flange of the vehicle;
a support frame operatively supporting the first and second hub assemblies, with the first and second hub assemblies rotatable with respect to the support frame; and,
an endless track encircling the first and second hub assemblies, with the endless track engaged by only one of the first or second hub assemblies.

37. The method of converting a wheeled vehicle to a tracked vehicle of claim 36, wherein the step of attaching the first track assembly to the wheel flanges of the vehicle comprises the steps of:

- i. aligning pre-configured and arranged apertures in the first and second hub assemblies with wheel lugs on the first and second wheel flanges;
- ii. positioning the first track assembly relative to the wheel flanges so that the wheel lugs protrude through the pre-configured and arranged apertures; and,
- iii. fastening the first track assembly to the wheel flanges using wheel lug nuts.

38. The method of claim 36, further comprising the steps of:

- d. removing a first wheel from a first wheel flange on the opposite side of said vehicle;
- e. removing a second wheel from a second wheel flange on said opposite side of said vehicle; and,

f. attaching a second track assembly to the wheel flanges on said opposite side of said vehicle, the second track assembly comprising:

- a first hub assembly attachable to a first wheel flange of the vehicle;
- a second hub assembly attachable to a second wheel flange of the vehicle;
- a support frame operatively supporting the first and second hub assemblies, with the first and second hub assemblies rotatable with respect to the support frame; and,
- an endless track encircling the first and second hub assemblies, with the endless track engaged by only one of the first or second hub assemblies.

39. The method of converting a wheeled vehicle to a tracked vehicle of claim 38, wherein the step of attaching the second track assembly to the wheel flanges on the opposite side of the vehicle comprises the steps of:

- i. aligning pre-configured and arranged apertures in the first and second hub assemblies with wheel lugs on the wheel flanges on the opposite side of the vehicle;
- ii. positioning the second track assembly relative to the wheel flanges so that the wheel lugs protrude through the pre-configured and arranged apertures; and,
- iii. fastening the second track assembly to the wheel flanges using wheel lug nuts.